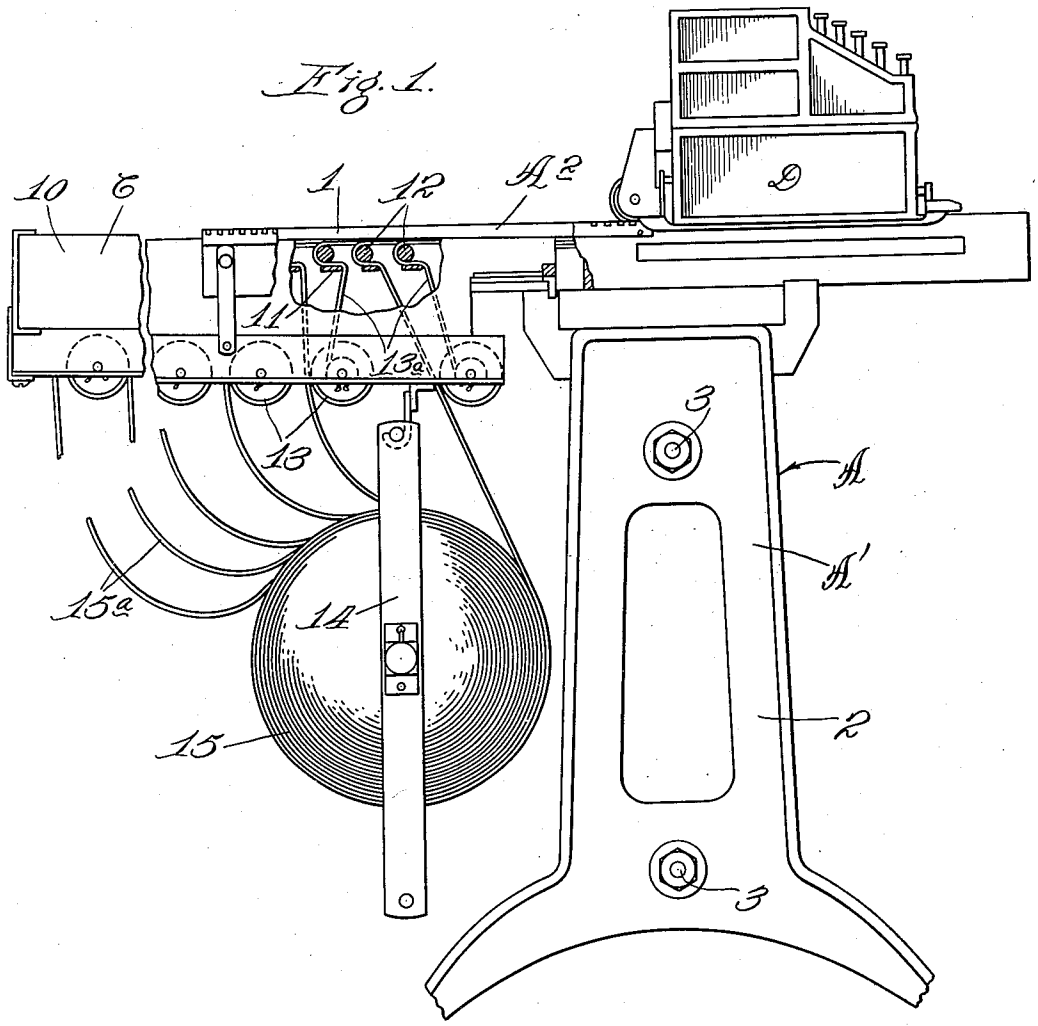
Sept. 25, 1934. L. J. MILLER 1,974,874

DUPLICATING MACHINE

Original Filed Oct. 10, 1929 2 Sheets-Sheet 1

Fig. 1.



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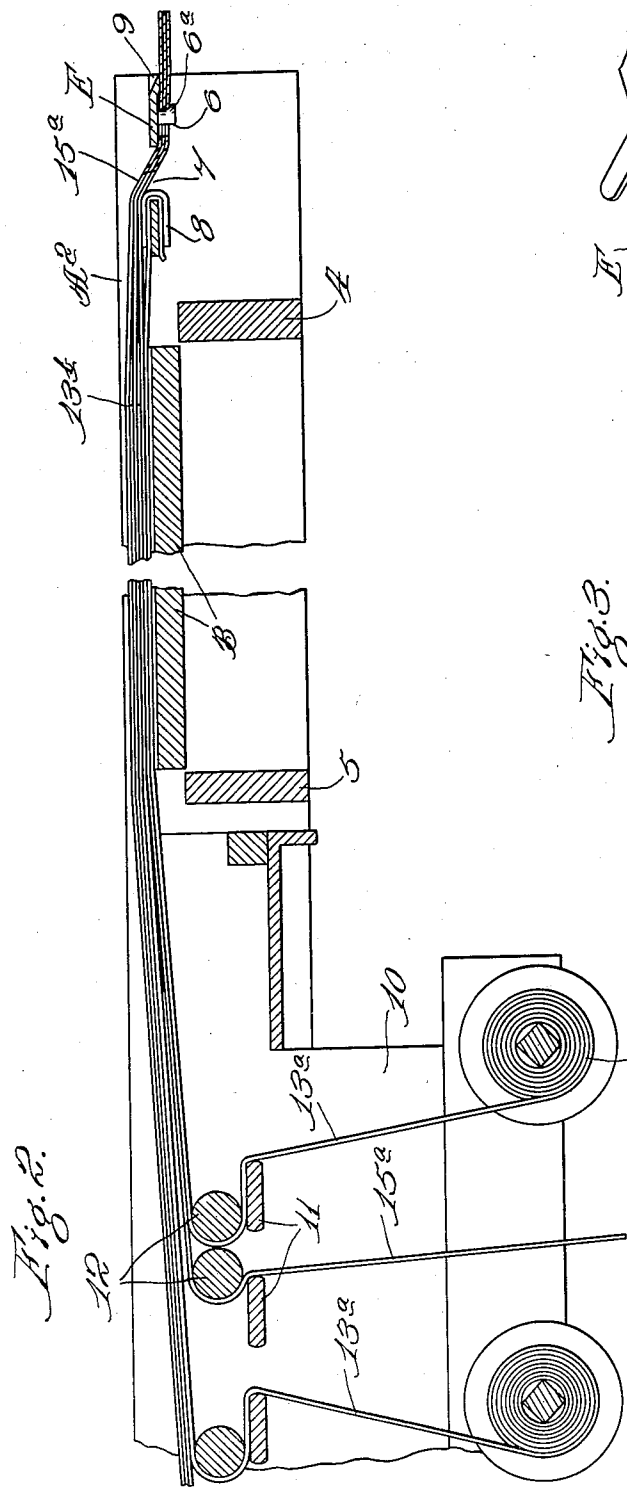

Fig. 2.

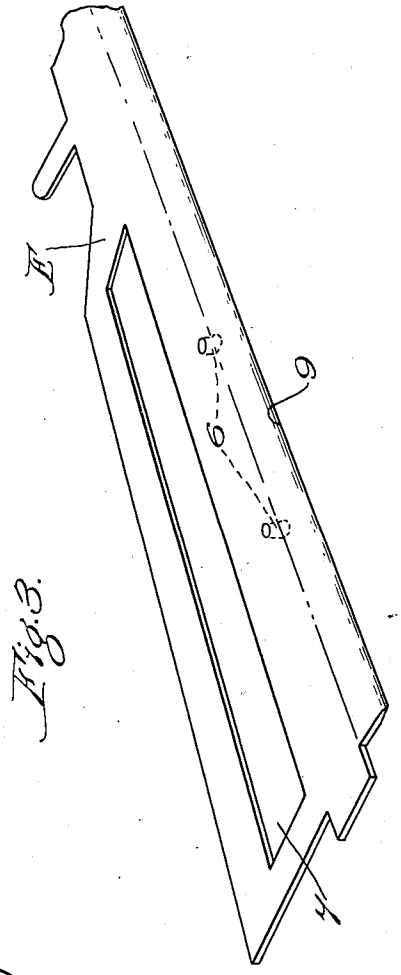

Fig. 3.

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UNITED STATES PATENT OFFICE

1,974,874

DUPLICATING MACHINE

Louis J. Miller, Chicago, Ill., assignor to United Autographic Register Co., Chicago, Ill., a corporation of Illinois

Original application October 10, 1929, Serial No. 398,715. Divided and this application July 1, 1932, Serial No. 620,491

2 Claims. (Cl. 197—133)

This invention relates particularly to duplicating machines adapted to the purpose of filling in forms on continuous-form stationery.

The invention is more particularly applicable to a machine comprising a bed equipped with a plate-form platen, and a typewriter movably mounted on the bed and adapted to the purpose of filling in the forms.

The present application is a division of my copending application Serial No. 398,715, filed October 10, 1929.

The primary object is to provide a bed of a machine of the type described with an improved tear-off blade having depending pins adapted to engage and support paper webs.

In accordance with the present invention, paper webs having register perforations are passed over individual web-tensioning devices and are drawn forwardly over the platen and through a slot in a cross-plate at the front of the bed and the register perforations are brought into engagement with depending pins which are preferably positioned on the plate in front of the slot. Carbon rolls are interposed between the paper webs and the carbon-strips pass therefrom over individual strip-retracting devices and are interleaved between the paper webs. The front end of the carbon-strips (which are unperforated) are some distance in the rear of the pins which serve as a means for holding the paper webs against the tension exerted by the individual tensioning devices. The lowermost carbon-strip is preferably clamped to the rear of the cross-plate. After the form has been filled in, the paper webs are drawn forwardly and a fresh set of register-perforations are brought into engagement with the depending pins and paper webs are torn off against a suitable tearing-edge. The invention is illustrated in a preferred embodiment in the accompanying drawings, in which—

Fig. 1 is a broken side elevational view of a duplicating machine in which the invention may suitably be employed; Fig. 2, a broken vertical sectional view of a machine embodying the invention (typewriter removed); and Fig. 3, a perspective view illustrating the improved tear-off device.

Referring to the drawings, A designates a frame comprising a standard A′ and a bed A^2; B, a platen mounted in the front portion of said bed; C, web-tensioning mechanism demountably carried between rearwardly extending arms 1 with which the bed A^2 is provided; D, a typewriter mounted on rails which constitute the horizontal bed A^2 of the machine; and E, a cross-bar mounted on the front of the bed and equipped with depending pins and a tear-off blade.

The frame A may be of any suitable construction. In the form shown, the standard A′ consists of uprights 2 which are rigidly connected together by means of bolts 3. The platen B is mounted in the bed A^2 between cross members 4 and 5.

The cross-bar or cross-plate E is mounted on the front end of the bed A^2 and is equipped on its lower side with depending pins 6 having projecting lips 6^a. To the rear of the pins 6 is a slot 7 through which the paper-webs are brought into engagement with the pins. The front end of the lowermost carbon-strip is secured to the rear of the cross-plate E by means of a clip 8. At the front of the plate is a tear-off edge 9.

The tensioning mechanism C is fully described in the parent application, and as here shown, comprises a demountable auxiliary frame 10; a series of snubbing-bars 11; a series of shiftable transverse guide-rods 12 overlying the bars 11; a series of carbon rolls 13 having carbon-strips 13^a extending therefrom about alternate tensioning rolls 12; a hanger 14 depending from an extension of the auxiliary frame 10; and a web-supply roll 15 supported in said hanger from which paper webs 15^a extend about the other alternate tensioning rolls 12 and thence forwardly across the platen.

In the operation of the machine the paper-webs are threaded between the guide-roll and snubber-bar of the alternate sets of these devices; and the carbon-strips are threaded between the members of the remaining sets. The paper webs and carbon-strips are brought forwardly across the platen and the register-perforations in the paper webs are brought into engagement with the pins 6, after the paper webs have been pulled through the slot 7. The paper webs are supported by the natural resiliency of the paper and by the projecting lips 6^a on the pins. The uppermost carbon-strips have their front ends located some distance back of the pins, as indicated at 13^b in Fig. 2. The lowermost carbon-strip is secured at its front end to the rear portion of the plate E by means of the clip 8. After the form has been filled in by means of the typewriter, the operator draws the paper webs forwardly to bring a fresh set over the platen and a fresh set of register-perforations is brought into engagement with the pins. The webs are severed by tearing them against the edge 9. When it is desired to renew the supply of carbon over the platen, the operator takes hold of the

paper webs and the interposed carbon-strips and draws them forwardly and effects severance of all of the strips. The strips may then be permitted to be retracted by the individual tensioning devices after which the operator takes hold of the paper webs and draws them forwardly and brings a fresh set of perforations into engagement with the register-pins. An alternative is to hold the paper webs after severance and permit only the carbon-strips to be retracted by the tensioning devices.

The foregoing detailed description has been given for clearness of understanding only, and no unnecessary limitations should be understood therefrom, but the appended claims should be construed as broadly as permissible, in view of the prior art.

I claim:

1. In a mechanism of the character set forth: a frame having a bed equipped with a tear-off blade, said blade being provided with a slot through which paper webs may be led, and said blade having depending register-pins in advance of said slot; a platen mounted in said bed over which paper webs provided with register-perforations may be led into engagement with said pins; and web-tensioning means serving to yieldingly retract the webs and tension them across the platen.

2. In mechanism of the character described; a frame having a bed; a cross-bar fixedly mounted on said bed, said cross-bar being provided with a tear-off edge and depending register-pins; a platen on said bed over which paper webs provided with register perforations may be led and brought into engagement with said pins; and web-tensioning means serving to yieldingly retract the webs and tension them across said platen.

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